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INVENTOR: **Yoshihiko Shioda**
400-E Clanton Road
Charlotte, NC 28217

TITLE: **GOLF PRACTICE AND
EXERCISE DEVICE**

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Please address all correspondence in this application to:

Dalbert U. Shefte
KENNEDY COVINGTON LOBDELL & HICKMAN, L.L.P.
Hearst Tower, 47th Floor
214 North Tryon Street
Charlotte, NC 28202
(704) 331-7400

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TYPED NAME Marcia Siuda

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GOLF PRACTICE AND EXERCISE DEVICE

RELATED APPLICATION

[0001] The present application is a continuation-in-part of pending U.S. Patent Application, Serial No. 09/444,120, filed November 19, 1999.

FIELD OF THE INVENTION

[0002] The present invention relates to golf practice and exercise devices that improve the user's golf swing and develops the muscles used in a golf swing.

BACKGROUND OF THE INVENTION

[0003] There are many prior devices that have been developed for golfers to practice to improve their swing. One type suspends a golf ball-sized object from the end of a cord in a position for being struck by the head of a golf club being practice swung by a golfer. Such devices allow a golfer to practice his swing and improve the technique and path of a swing in a confined space instead of having to use a driving range. However, the object being struck is a golf ball or the size of a golf ball and, therefore, provides little muscle-building resistance.

[0004] Another type of practice device is a relatively large bag known as an Impact Bag that is intended to be filled with soft material, such as towels, and is placed against a stationary object that prevents displacement of the bag. Such a device is intended to be used to stop a practice swing at the point of impact so that the golfer can evaluate the club's and his body's positions at impact. It does not allow the golfer to complete the follow-through of

a golf swing and to perform a muscle building exercise by overcoming the resistance of a weight as the club moves through impact into the follow-through.

[0005] In contrast, the present invention provides a combination of practicing techniques as well as building the muscles used in swinging a golf club.

SUMMARY OF THE INVENTION

[0006] Briefly described, the golf practice and exercise device of the present invention includes a frame member having a base portion for supporting the device on a floor or on the ground. The frame member extends upwardly from the base member and has an outwardly extending mounting arm extending above an impact position of a golf club when swung by a golfer standing beyond the outer extent of said mounting arm, and a moveable member suspended from the mounting arm to the impact position to be struck by a golf club during a normal swing of a golf club. The moveable member provides sufficient resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development while allowing the head of the golf club to move the moveable member sufficiently for the golf clubhead to ultimately pass thereunder and allow the golfer to complete the follow-through of the swing.

[0007] In a first preferred embodiment, the moveable member has a surface at the impact position of a size at least that of the corresponding surface of a softball to provide a large target so that the golfer can swing a golf club freely without concentration on striking the small target of the golf ball.

[0008] The moveable member may be substantially the same as a standard softball and be approximately 4 to 5 inches in diameter and weigh approximately 4 to 12 ounces, preferably 6 to 7 ounces.

[0009] The mounting arm may be positioned 1½ feet to 5 feet above the ground or floor, preferably 3 feet, and in one form the object is suspended from the mounting arm by a cord attached to the object and attached to a ring that is freely rotatably mounted on the arm for rotation of the ring, cord and object about a generally horizontal axis. The object may be alternatively attachable to the base, as well as to the mounting arm, for restraining the object against movement for alternative use of the object as a stop of the golf club in an impact position.

[0010] In a second preferred embodiment the moveable member is a resilient member having a surface at the impact position of a size at least that of a corresponding surface of a softball and providing sufficient resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development while allowing the head of a golf ball to move the resilient member sufficiently for the golf clubhead to ultimately pass thereunder and allow the golfer to complete the follow-through of said golf swing.

[0011] In a variation of the second preferred embodiment, a resilient flat strip has an end secured to the mounting arm and suspended from the mounting arm to the impact position. This strip has a flat surface facing the impact position of a golf clubhead to be struck by a golf clubhead during a normal swing of the golf club. The resilient strip provides sufficient resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development while allowing the head of a golf club to move the strip sufficiently for the golf clubhead to ultimately pass thereunder and allow the golfer to complete the follow-through of the golf swing. There may be a plurality, such as three, of flat strips secured contiguously in the mounting member and having flat surfaces facing the impact position of the clubhead.

[0012] The flat strip or strips preferably have a surface at the impact position of a size at least that of a corresponding surface of a softball to provide a large target so that the golfer can swing a golf club freely without concentration on striking the small target of a golf ball.

[0013] It should be understood that the present invention could be adapted to other shapes and sizes that provide a large enough striking surface that the practicing golfer need not concentrate on the precise location of striking, which a golfer must do with a small object, such as a golf ball, and provides muscle building resistance yet can be displaced by a practice swing so that the golfer is able to complete the follow-through of the swing for the feel and practice of a complete swing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Fig. 1 is a perspective view of a golf practice and exercise device according to one of the preferred embodiments of the present invention, illustrating a golfer with a golf club in the striking position;

[0015] Fig. 2 is a front elevation view of the device of Fig. 1 illustrating the impact position of a golf clubhead in dotted lines;

[0016] Fig. 3 is a view similar to Fig. 2, illustrating the object of the device of the invention being displaced as a golf clubhead advances past the initial impact position and showing the position of a golf clubhead after it has passed under the object during follow-through;

[0017] Fig. 4 is a view similar to Fig. 2 illustrating the device of the present invention with an alternate form of the object;

[0018] Fig. 5 is a view similar to Fig. 2, illustrating the device of the present invention with an object that is capable of alternative use as a swinging object and as a stationary object;

[0019] Fig. 6 is a perspective view of a golf practice and exercise device according to a second preferred embodiment of the present invention, illustrating a golfer with a golf club in the striking position;

[0020] Fig. 7 is a front elevation view of the device of Fig. 6 illustrating the impact position of a golf clubhead in dotted lines;

[0021] Fig. 8 is a view similar to Fig. 7 showing the resilient member in the form of a plurality of three flat strips;

[0022] Fig. 9 is a perspective view of a golf practice and exercise device according to a variation of the embodiment of Fig. 6, illustrating a golfer with a golf club in the striking position; and

[0023] Fig. 10 is a front elevation view of the device of Fig. 9 illustrating the impact position of a golf clubhead in dotted lines.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] A first preferred embodiment of the golf practice and exercise device of the present invention is illustrated in Figs. 1-5. This device 10 includes a frame 11 having a flat base portion 12 formed for seating on the ground 13 or the floor. Extending upwardly from the base portion 12 is an upright portion 14. At the upper extent of the upright portion 14 a mounting arm 15 projects outwardly over a portion of the base portion 12. At the outer end 16 of the mounting arm 15, a moveable member in the form of an object 17 to be struck by a golfer 22 is suspended by a flexible cord 18 so that the object 17 has a golf clubhead impact surface 19 in position relative to the base portion 12 for striking by a golf clubhead swung by a golfer 22. To simulate the ground and to prevent damage to a club 24 being swung, a conventional mat 20 is secured to the top of the base portion 12 under the object 17.

[0025] The size of the golf clubhead impact surface is at least the size of the corresponding surface of a softball to provide a large target so that the golfer can swing freely without concentration on striking a small target as is the case when swinging at a golf ball. The object may be a softball and, in any event, provides sufficient resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development while allowing the head of the golf club to move the object sufficiently for the golf clubhead to ultimately pass thereunder and allow the golfer to complete the follow-through of the golf swing.

[0026] The flexible cord 18 is attached to a ring 21 that is freely rotatably mounted at the outer end 16 of the arm 15 for rotation of the ring, cord and object about a generally horizontal axis. With this arrangement, the object 17 will swing like a pendulum when it is struck. If the object is of small enough mass and the clubhead 23 strikes with sufficient force, the object 17 may be caused to swing totally around the arm 15. On the other hand, the weight of the object 17 and the force of the swing may only be sufficient to cause a pendulum-like oscillation of the object 17.

[0027] In the form illustrated in Figs. 1, 2 and 3, the object 17 may be substantially the same as a teardrop-shaped punching bag used by boxers when training, having a similar mass that imposes muscular strain on the golfer when struck for muscle development but being limited in mass to allow the head of the golf club to swing the object sufficiently for the golf clubhead to ultimately pass under the object and allow the golfer to complete the follow-through of the golf swing. Typically, the object 17 will be 4 to 5 inches in diameter and weigh approximately 4 to 12 ounces, preferably 6 to 7 ounces. The mass may be provided by a core of tightly wound yarn or string or a sawdust or similar composted filler or yarn or string wound around a core or a sand filler. Various other materials can be used that provide the desired results.

[0028] When a golfer 22 uses the device 10 of Figs. 1, 2 and 3, he positions himself in an address position with the clubhead 23 of his club 24 at or contacting the striking surface 19 of the object 17. The golfer 22 then takes a normal back swing and then a down swing with the clubhead 23 striking the impact surface 19 of the object 17. Because of the size of the impact surface 19 of the object 17, the golfer 22 need not be concerned or concentrate on the specific location of the clubhead 23 at the striking surface 19 as he is when practicing with a golf ball. Also, due to the mass of the object 17, the golfer will swing hard at the object 17, considerably harder than the golfer would normally think about when striking a small light golf ball. This action in swinging at the object 17 somewhat resembles the effort and position of striking an object with a sledgehammer, knowing the resistance that will meet the impact. This facilitates the golfer utilizing his body to provide maximum force, which, as illustrated in Fig. 1, results in him obtaining a proper body turn and positioning at the point of impact. This not only trains the golfer to arrive at a proper ball striking position, but places the golfer in position for continuing through the swing against the resistance of the object 17, thereby providing for practicing of technique as well as building strong muscles that are used in the golf swing.

[0029] Because of the mass of the object 17, the golfer knows that he must continue exerting force against the object 17 sufficient to swing it past the impact position so that the clubhead 23 can ultimately move under the object 17 and through completion of the follow-through of the swing. This movement of the object 17 by the clubhead 23 is illustrated at 25 in Fig. 3 and the position of the clubhead after displacing the object 17 and moving under and away therefrom is illustrated at 26 in Fig. 3.

[0030] The mounting arm 15 is approximately 1½ to 5 feet above the ground, preferably 3 feet above the ground, for an optimum swing path of the object 17 in relation to the swing path of the clubhead 23.

[0031] In the variation illustrated in Fig. 4, the object 27 is a spherical object that is substantially the same size and weight as a conventional softball. It may be approximately 4 to 5 inches in diameter and weigh approximately 4 to 12 ounces, preferably 6 to 7 ounces. Otherwise, this variation is identical to the embodiment of Figs. 1, 2 and 3.

[0032] Fig. 5 illustrates an object 29 in a form substantially the same as a cylindrical body punching bag used by boxers in training. It may be approximately 3 to 12 inches in diameter, preferably 6 to 10 inches in diameter, and may weigh approximately 1 to 12 pounds, preferably approximately 6 pounds. It may be approximately 10 to 18 inches in height.

[0033] This device of Fig. 5, includes fastening means in the form of a hook 30 secured and extending upwardly from the base portion 12 and an eyelet 31 secured to and extending downwardly from the object 29 for connection with the hook 30. This fastening means allows the object 17 to be selectively used to restrain the object 29 against movement for alternative use of the object 29 as a stop of the golf club in an impact position, should the golfer desire to use the device in this manner. Preferably, the hook 30 and eyelet 31 would be attached to the base portion 12 and the object 29, respectively, in at least a partially retracted position when not engaged so as not to interfere with or damage the clubhead when the object 29 is used as a moving object as described above. If desired, the object 29 of the embodiment of Fig. 5 can be permanently secured in the stationary position described, or two objects can be used selectively, one for swing and one for stationary use.

[0034] The objects 17, 27, 29 of Figs. 1-5 may be suspended from the outer end 16 of the mounting arm 15 by a thin rigid rod, rather than a flexible cord 18, with the rod being pivoted

similarly by attachment to the ring 21 for rotation of the rod and object about the mounting arm 15 when struck by a golf club.

[0035] The object may be suspended from the limb of a tree with the ground serving as the base, the tree trunk as the upright portion and the limb as the mounting arm.

[0036] Another alternative to the embodiment of Figs. 1-5 is the use of a rod or rods extending rigidly downwardly from the upright portion for insertion in the ground to hold the frame in the upright position. The ground would then serve as the base portion and a mat would be placed on the ground with the object to be struck being suspended from an arm portion projecting from the upright portion.

[0037] While specific shapes of the object of the golf practice and exercise devices illustrated and described with reference to Figs. 1-5, it should be understood that other shapes are within the scope of the present invention. Basically, regardless of the shape, the object should have a golf clubhead impact surface approaching the size of or greater than the corresponding surface of a baseball to provide a large target so that the golfer can swing freely without concentration on striking a small target, and the object should have a mass approaching that of or exceeding that of a baseball to provide substantial resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development, but being limited in mass to allow the head of the golf club to swing the object sufficiently for the golf clubhead to ultimately pass under the object and allow the golfer to complete the follow-through of the golf swing. In the spherical form of the object, it is approximately 3 to 8 inches in diameter, preferably 3 inches in diameter, and weighs 3 to 12 ounces, preferably 5 ounces. A filler may be inserted in the object to obtain the desired mass.

[0038] In any of the forms of the object, it may include a cover, such as a pouch or similar covering, made of a relatively soft material, such as a textile fabric of any desired thickness to provide a softening of the impact of the clubhead against the object.

[0039] It should be noted that the mass of the object of any of the above forms may be large enough to allow a golfer to swing easy and have the object stop the clubhead in the impact position while the mass allows a golfer to take a full swing that causes movement of the object for completion of the follow-through of the golf swing. Alternatively, the device can be provided with objects of two different masses, one large enough to serve as an impact bag to stop the clubhead at the point of impact and the other being light enough within the parameters described above, to allow movement of the object for completion of the follow-through of the golf swing.

[0040] In the second preferred embodiment, illustrated in Figs. 6-10, the device 10 has a frame 32 with a base portion 33 supported in the ground 34. An upright portion 35 is secured to and extends upwardly from the base portion 33. The base portion 33 and upright portion 35 are the same as the corresponding portions of the embodiment of Figs. 1-5.

[0041] A mounting arm 36 is secured to and extends horizontally from the top of the upright portion 35 above an impact position of a golf club 38 when swung by a golfer 39 standing beyond the outer extent of the mounting arm 36. The mounting arm 36 has a downwardly facing slot 40 in which is secured the enlarged upper end 41 of a moveable member in the form of a resilient flat strip 42 that is suspended from the mounting arm 36 to the impact position 37. The strip 42 has a flat surface 43 facing the impact position 37 of a golf clubhead 44. The resilient strip provides sufficient resistance to the impact of a golf club to impose muscular strain on the golfer for muscle development while allowing the head of a golf club to move the strip sufficiently for the golf clubhead to ultimately pass thereunder and

allow the golfer to complete the follow-through of the golf swing. The movement of the resilient strip 42 is illustrated in dotted lines in Fig. 7.

[0042] Preferably, the flat surface 43 of the strip 42 at the impact position 37 is of a size at least that of the corresponding surface of a softball to provide a large target so that the golfer can swing a golf club freely without concentration on striking the small target of a golf ball. A suitable example of a strip 42 is a rectangular sheet of synthetic rubber having a vertical dimension of 10 inches, a horizontal extent of 7 inches and a thickness of $\frac{1}{2}$ inch. The composition, dimensions and resiliency of the strip may be varied and selected to provide the resiliency and stiffness desired for the intended use of the golfer.

[0043] In assembling the strip 42 in the mounting arm 36, the enlarged upper end 41 of the strip is slid horizontally into the slot 40 of the mounting arm 36. The slot 40 is formed with flat vertical sides 45 that retain the upper end 41 of the strip 42 against movement. As a result, the movement of the strip 42 is a result of the resilience of the strip rather than a swinging connection as in the embodiment of Figs. 1-5.

[0044] To simulate actual playing conditions, a synthetic grass mat 46 is secured on the base portion 33 at the impact position 37 below the bottom edge of the strip 42.

[0045] A variation of the second embodiment of the present invention is illustrated in Fig. 8 wherein the device 10 has a frame member with the same base portion 33 and upright portion 35 as the device of Figs. 6 and 7. The frame member differs, however, in that the mounting arm 47 is formed with a slot 48 of sufficient width to retain three strips 49, the upper ends 50 of which are secured in the slot 48 by a nut 51 and bolt 52 connection that pinches the upper ends 50 of the strips 49 in the slot 48. The flat strips 49 are secured contiguously in the slot 48 and all have flat surfaces 49 facing the impact position 37. With this arrangement, the number of strips 53 may be varied to provide characteristics desired by the golfer.

[0046] In the embodiments of Figs. 6, 7 and 8, the strip or strips may be of any suitable size, preferably of a height in the range of 4-1/2 to 20 inches, a width in the range of 5 to 16 inches and a thickness in the range of 1/2 to 5 inches. The material may be any suitable resilient material that is strong enough to sustain numerous strikes by a clubhead yet sufficiently soft and flexible to avoid hurting the hands of the user. Synthetic rubber, vinyl and other plastic or synthetic material are non-limiting examples of material that can be used.

[0047] A further variation of the second embodiment of the present invention is illustrated in Figs. 9 and 10 wherein the device 10 has the same frame member 32 base portion 33 and upright portion 35 as in the previously described devices, with the base portion 33 similarly supported on the ground 34 with a similar mat 46 on the base portion 33 at the impact position 37.

[0048] In the variation of Figs. 9 and 10, the moveable resilient member is in the form of a large coil spring 55 that has a bent top coil 56 that is secured by a nut 57 and bolt 58 connection in the mounting arm 59. The spring 55 seats against a flat undersurface 60 of the mounting arm 59 so that displacement of the spring 55 results from the resiliency of the spring, not any pivoting of the spring 55 with respect to the mounting arm 59.

[0049] Secured to the lower end 61 of the coil spring 55 is a spherical object 62 similar to the spherical object 27 in the variation of the first embodiment illustrated in Fig. 4. This object is preferably substantially the same size and weight as a conventional softball. The characteristics of the coil spring 55 and the spherical object 62 may be varied to provide desired results.

[0050] While in the embodiments of Figs. 4, 9 and 10 the objects 27 and 62 are illustrated as being the size and mass of a softball, it should be understood that larger objects and objects

of varying configurations can be used, such as, for example, the objects 17 and 29 of Figs. 1, 2 and 5.

[0051] It will therefore be readily understood by those persons skilled in the art that the present invention is susceptible of broad utility and application. Many embodiments and adaptations of the present invention other than those herein described, as well as many variations, modifications and equivalent arrangements, will be apparent from or reasonably suggested by the present invention and the foregoing description thereof, without departing from the substance or scope of the present invention. Accordingly, while the present invention has been described herein in detail in relation to its preferred embodiment, it is to be understood that this disclosure is only illustrative and exemplary of the present invention and is made merely for purposes of providing a full and enabling disclosure of the invention. The foregoing disclosure is not intended or to be construed to limit the present invention or otherwise to exclude any such other embodiments, adaptations, variations, modifications and equivalent arrangements, the present invention being limited only by the claims appended hereto and the equivalents thereof.